

Practically all of these species are now recognized by students of Hymenoptera and while most of them are represented in the National Collection, yet so far as I have been able to determine there are no specimens which can be considered as type material. Patton's descriptions, on the whole, are very satisfactory and we have less trouble understanding his species than we do those of some of the other students who worked at about the same time. In his revisionary work Patton described thirteen genera; eight of these belong to the superfamily Sphecoidea and five to the superfamily Apoidea. Among the bee genera are such common and well recognized ones as *Bombomelecta*, *Diadasia*, *Emphor* and *Entechmia*. Among the wasp genera the ones which are recognized all over the world are *Isodontia*, *Aphilanthops*, *Larropsis* and *Microbembex*. The other four wasp genera have been recognized by some students, while certain other students consider that they are founded upon too trivial characters to be treated as genera.

In looking over Patton's papers I have been struck with the fact that while practically all of his systematic work was done on Hymenoptera, most of his biological observations were made on lepidopterous insects.

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### **Notes on Some of van der Wulp's Species of North American Anthomyiidae (Diptera).**

By J. R. MALLOCH, Urbana, Illinois.

In working up the Anthomyiidae of North America I have found some difficulty in placing most of the described forms in their proper genera and this has been especially true of the species described by van der Wulp. At my request Mr. F. W. Edwards obtained for me specimens of twenty-four of the species from the original series in the British Museum as an exchange. These specimens have been used as a basis for the following notes and have been incorporated in the collection of the Illinois State Natural History Survey. They are undoubtedly paratypes of the species listed.

**Clinopera hieroglyphica.**

This species is the genotype of *Clinopera*. The male I have before me has characters that appear to justify the separation of *Clinopera* from *Cyrtoneurina*, the genotype of which is *uber* G.-T. The distinguishing characters may be summarized as follows:

<i>Clinopera</i>	<i>Cyrtoneurina</i>
First wing-vein setulose only basad of humeral vein; third setulose at base.	First wing-vein setulose only distad of humeral vein; third setulose to or almost to inner cross-vein.

**Muscina tripunctata.**

This species is the same as *Neomuscina cavicola* Townsend. I have a male and female from Townsend's material sent me by Dr. Aldrich; the male agrees in all particulars with a male from van der Wulp's series from northern Yucatan.

The genus is valid and the species must therefore appear in our list as *Neomuscina tripunctata* (v. d. Wulp).

**Charadrella macrosoma.**

A male and female from northern Yucatan. The only species of the genus.

**Spilogaster rubripalpis.**

A female of this species from Cuernavaca proves that *Ariciella flavicornis* Malloch is a synonym. The species will stand in our list as *Aricella rubripalpis* (v. d. Wulp) Malloch.

**Mydaea obscura.**

A male of this species from northern Yucatan has the pteropleura and the declivitous portion of lateral margin of thorax in front of scutellum with hairs in center, prosternum bare, lower margin of metathoracic spiracle with some black hairs, third wing-vein bare at base, hind tibial calcar absent, third vein slightly flexed forward at apex, scutellum with some hairs low down on sides at base, anterior intra-alar bristle absent.

I erect for the reception of this species the new genus *NEOMUSCA*, with the combination of characters above mentioned.

I have in my possession a male from Esperanza Ranch, Brownsville, Tex., July 25.

**Phorbia fuscisquama.**

A male from Omilteme, Gueyero, is an aberrant species referable to *Phaonia* as at present limited.

**Mydaea concinna.**

A female from Xucumanatlan, Guerrero. This species has a pair of strong cruciate interfrontal bristles, the lower supraorbital directed forward, prealar long, anterior intra-alar present, prosternum and pteropleura hairy, metathoracic spiracle with some black hairs along posterior margin, hypopleura bare, basal abdominal sternite hairy, first and third wing-veins with setulae on greater part of their lengths above, first bare below, third setulose at base below, hind tibial calcar present, third vein not curved forward at apex.

This species differs from *Ariciella* Malloch in the setulose wing-veins, bare lateral area proximad of base of scutellum, presence of hind tibial calcar and prealar, as well as in several other characters.

I propose for the reception of the species the new genus *SMITHOMYIA*, with the combination of characters above mentioned.

**Mydaea pansa** G. T.

A female specimen identified by van der Wulp as *pansa* is a true *Mydaea*, separable from any known to me by its testaceous yellow color.

**Pogonomyia aterrima.**

A true *Pogonomyia* closely allied to *minor* Malloch. I have one female before me from Ciudad, Mexico. This specimen is slightly larger than paratypes of *minor*, has the fore tibia with one strong and one very weak posteroventral bristle, the fore tarsi more slender, the hind tibia with three anterodorsal and posterodorsal bristles and the wings darker than in *minor*.

**Limnophora socia.**

One female from Omilteme, Guerrero. This species closely resembles *Helina obscurinervis* (Stein) and *H. pocilloptera* Malloch, having the same thoracic and hind tibial bristling, but the palpi, second antennal segment and base of third are yellow, and the apex of first vein and base of third are darkened. The arista is pubescent.

Belongs to *Helina* R.-D.

**Spilogaster signatipennis.**

A male from Guerrero. Belongs to the same group as the preceding species, but the hind femur has long fine bristles on the entire length of the anteroventral surface and shorter

hairlike bristles on posteroventral. Prealar minute. Arista short-haired.

A female from Omilteme has the hind femur with two or three bristles near base and four or five on apical third on anteroventral surface and the posteroventral surface bare.

Both sexes have the palpi black and the antennae almost so.

#### **Spilogaster parvula.**

A female from Tepetlapa, Guerrero. This species has the cross-veins less distinctly infuscated than in the other species of the *obscurinervis* group and the hind tibia with three anterodorsal and one posterodorsal bristle. The palpi at apices and all of third antennal segment are infuscated and the arista long haired. Thoracic bristles as in the preceding species.

Belongs to *Helina* R.-D.

#### **Spilogaster copiosa.**

A male and female from Omilteme, Guerrero. Postsutural dorso-centrals three, prealar minute or absent, arista short haired. Fore tibia with one to three posteroventral bristles, hind tibia with three anterodorsal bristles and one to three posterodorsal setulae, cross-veins not infuscated.

Belongs to *Helina* R.-D.

#### **Leucomelina corvina.**

A male in poor condition, Orizaba. This is a *Limnophora*.

The thoracic dorsum in front of suture has three contiguous black marks, and behind the suture three contiguous black vittae, the one on each side not extending to scutellum. The second and third abdominal tergites each have a pair of large triangular black spots and the fourth has a smaller central spot. Mid tibia with one posterior bristle.

#### **Leucomelina deleta.**

One male, Omilteme, Guerrero. A *Limnophora*.

Differs from *corvina* in having a pubescent arista, eyes much closer together, thorax with three pairs of dorsocentral bristles, mid-tibia with two posterior bristles, and the abdomen with the paired dorsal spots extending from base to apex on each tergite, their inner margins straight, the outer concave in center.

#### **Leucomelina minuscula.**

One female, Atoyac, Vera Cruz. Very closely resembles *deleta*. The midtibia has one posterior bristle and the spots

on the abdomen are dilated at their posterior extremities. Both species lack the anterior intra-alar.

**Leucomelina garrula.**

One female, Guerrero. Very closely resembles *minuscula* but larger (7.25: 4.5 mm.), and with two posterior bristles on mid tibia.

**Coenosia femoralis.**

One female from Orizaba. This is *Bithoracochaeta leucoprocta* (Wied.). This species has the following synonyms: *antica* Walker, *calopus* Bigot, *despecta* Walker, *insignis* Stein, *pipunculina* Thomson, and *rufipes* Bigot, in addition to *femoralis*.

**Coenosia macrocera.**

A female, Guerrero. This species is an aberrant form with a median anterodorsal and no anteroventral bristle on hind tibia. The ocellar and postvertical bristles are long.

**Coenosia punctulata.**

A female, Omilteme, Guerrero. Similar in bristling of hind tibia to *macrocera*, but the antennae are shorter and stouter and the abdomen is nowhere yellow.

**Hydrophoria flavipalpis.**

One male from Sierra de las Aguas Escondidas, Guerrero. This species belongs to *Emmesomyia* Malloch and differs from those previously placed in the genus in having a black mark across middle of thorax, palpi pale, and tips of mid and hind femora black. The fifth abdominal sternite is different from that of any of the other species known to me.

**Anthomyia dorsimaculata.**

A male of this species from Omilteme, Guerrero. Belongs to the genus *Pegomyia* and closely allied to *vanduscei* Malloch.

**Hydrophoria transversalis.**

A male and female from Guerrero. Stein has sunk this species as a synonym of *pictipes* Bigot and placed it in his genus *Taeniomyia*. I can not satisfactorily separate the genus from *Pegomyia*, the black transverse band on thorax used by Stein for that purpose being in my opinion too trivial for a generic character.

**Hydrophoria collaris.**

A female from Guerrero. Differs from the female of the preceding species in having no cruciate interfrontal bristles and the arista much shorter haired. Belongs also, to *Pegomyia*.

**Phorbia prisca.**

A female, Ciudad, Mexico. A *Hylemyia* very close to *cilicrura* Zetterstedt. Impossible to say just what the species is.

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**A Bibliography on Fungous Insects and their Hosts.**

By HARRY B. WEISS, New Brunswick, New Jersey.

While many papers have appeared on various insects which inhabit fungi, only a few of them mention the specific or generic name of the fungus and it is such papers which have been listed below. The list is as complete as it has been possible to make it and includes only references to American literature. A few of the references relate to insects indirectly associated with certain fungi and not usually considered as fungous insects. The writer will be pleased to know of any omissions.

COLEOPTERA.

- Liodes basalis* Lec. Smith, J. B. Insects of New Jersey, p. 230. (N. J. St. Mus. Rept. 1909).
- Baeocera punctipennis* Blatch. Blatchley, W. S. Col. Ind. p. 494, 1910.
- Lycoperdina ferruginea*. Lec. Blatchley, W. S. Col. Ind. p. 538, 1910.
- Megalodacne ulkei* Crotch. Dury, C. Canad. Ent. X, 210. Blatchley, W. S. Col. Ind. p. 545, 1910.
- Ischyurus quadripunctatus* Oliv. Weiss, H. B. Canad. Ent. LII, p. 14, 1920.
- Mycotretus pulchra* Say. Weiss, H. B. Canad. Ent. LII, p. 18, 1920.
- Cucujus clavipes* var. *punicus* Mann. Hubbard, H. G. Canad. Ent. XXIV, p. 250-6, 1892.
- Epuraea monogama* Cr. Hubbard, H. G. Canad. Ent. XXIV, p. 250-6, 1892.
- Peltis pippingskoeldi* Mann. Hubbard, H. G. Canad. Ent. XXIV, p. 250-6, 1892.
- Peltis ferruginea* Linn. Hubbard, H. G. Canad. Ent. XXIV, p. 250-6, 1892.